

“KEEPING UP WITH THE JONESES”—THE STORY OF SIR ROBERT JONES AND SIR REGINALD WATSON-JONES

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Hugh Owen Thomas was born in 1834 in Liverpool, the son of a professional bonesetter. He was considered by many to be the father of British orthopaedics. Thomas' father sent Hugh Owen and his brothers to medical school, and in 1857 he qualified as a doctor in Edinburgh. He was considered a dynamic, eccentric, and exceptionally hard-working gentleman. In addition, he was extremely free-thinking and novel in his approach to fracture management. Because of his controversial nature and unique ideas, he was not accepted by the medical establishment and never received a hospital appointment.

Thomas performed operations in his own small hospital and fabricated all of his braces and appliances. He was loved by the people for caring for the underprivileged of Liverpool. Each Sunday he provided free medical care for the poor. In 1875, he published a book entitled *Diseases of the Hip, Knee and Ankle Joints*. The book described the use of braces in fracture management, including a splint that he used for treatment of femur fractures. Interestingly, this device persists today as the Thomas Splint used by Emergency Medical Personnel to temporarily stabilize femur fractures. In addition, he described the use of an ischial-bearing splint to treat tuberculosis of the knee (Figure 1). Both of these devices were innovative approaches to common problems. He also described a way in which hip flexion contractures could be assessed on physical exam, now known as the “Thomas test” (Figures 2 a-b).



Figure 1. Thomas' ischial-bearing splint.



Figures 2A-B. Demonstration of the “Thomas test.”



Figure 3. Sir Robert Jones.

SIR ROBERT JONES

Hugh Owen Thomas' nephew Robert Jones was born in 1857 (Figure 3). Robert's father was an architect who gave up his career to write, and consequently the family became quite poor. At 16, he left London and went to live with his uncle in Liverpool. He learned about fracture care and how to make the braces that Thomas utilized. He began his medical education in 1873 and finished in 1878. He continued to work with Thomas until Thomas' death in 1891. Robert preserved his uncle's legacy and enhanced his ideas of immobilization and fracture care. He worked hard as well, seeing approximately 7,000 patients a year working two Sundays a month. Jones was known for his especially strong Victorian work ethic combined with an extremely attractive personality. These traits laid the foundation for his career success.

HOW HIS LEGACY BEGAN

In 1888, Robert Jones was appointed surgeon to the Manchester Ship Canal Project, a seven-year project



Figure 4. Sir Robert Jones and Agnes Hunt at Oswestry.⁶

involving 20,000 workers. He organized a series of hospitals along the canal to receive and house the injured workers. He also had each of these facilities staffed by medical personnel trained in fracture care. He personally dealt with 3,000 cases and carried out approximately 300 operations from his canal site alone. The canal provided the ideal setting for him to practice new techniques, expand the English medical establishment's knowledge of fracture care, and improve fracture management efficiency.

In 1899, he was appointed general surgeon to the Royal Southern Hospital in Liverpool. The following year, he met Agnes Hunt, who changed his life and the care of children in England forever. Agnes Hunt was a strong-willed woman who became a nurse after spending her childhood in Australia. Having suffered from a hip infection as a child, she used assistive devices to ambulate. In 1900, she developed a home for crippled children called the Base Church Home. Once weekly she took the children on a two-hour train ride from her facility to see Sir Robert Jones. He was impressed by

her strong will and the care she gave to the children. Moreover, she was enamored by his personality and his patient care skills. In 1903, she sought his care for her own chronic hip problems. He performed an irrigation and debridement followed by an eight month period of immobilization. His interest in caring for her children on a long-term basis increased, and in 1904 he began traveling to Base Church Home to care for the children on a weekly to bi-weekly basis. This relationship ultimately led to the development of the Robert Jones and Agnes Hunt Orthopaedic Hospital at Oswestry in 1921, which served Wales in the center of England (Figure 4).

ESTABLISHING THE SPECIALTY

At the end of the 19th century, orthopaedics was focused on the care of crippled children. Robert Jones, more than anyone else, was responsible for widening its scope to include the treatment of adults with disorders of the musculoskeletal system and the management of acute injuries. Robert Jones and Alfred Tubbe formed the British Orthopaedic Society on November 3rd, 1894. At that time, general surgeons carried out most fracture management. Because of the lack of participation by the general surgeons, the society ceased to function after four years. Most of the general surgeons had no interest in recognizing orthopaedics as a subspecialty or caring for fractures solely as a part of their practice. Nevertheless, Robert Jones was committed to improving orthopaedic care and fostering the specialization of orthopaedics.

His progressive attitude was exemplified by his incorporation of roentgenograms into his practice. After hearing about the development of the roentgenogram in 1896, he went to Germany and returned with his own radiographic apparatus. He later wrote "the first x-ray in this country was taken by Thurston Holland and myself with a little tube and we were able to develop a photograph of a small bullet which was embedded in a boy's wrist."³

In 1905, he restricted his care to orthopaedics. Thereafter, he began to publish heavily on a wide variety of orthopaedic topics. In 1916, he published a book entitled *Injuries of Joints*, which was a textbook of orthopaedic surgery that dealt systematically with the diagnosis and treatment of acute fractures. Jones was profoundly interested in the treatment of fractures and he felt that they were being treated inadequately. He criticized the way in which fractures were treated in what he called "big teaching hospitals." He was quoted as saying, "If I were made dictator, I would have an accident center in each large city, where cases would be properly treated and I would have beds for adults in each orthopaedic hospital and a small hospital to act as a casualty clearing station."³ Today these ideas seem

straightforward, but in his era they were groundbreaking. It was many years before they were completely accepted.

He organized a similar scheme for disabled servicemen at Shepard's Bush Hospital in London at the beginning of World War I. It was during this time that he introduced the Thomas splint for fractures of the middle and lower third of the femur. This splint alone was said to reduce the mortality of gunshots to the thigh from 80% to 20%. Later he was asked by the British government to become Major General Inspector for orthopaedics in the military, an appointment that outraged many general surgeons in London. His expertise in the management of musculoskeletal injuries was necessary as World War I brought on a significant number of bone and soft tissue injuries. Jones set up numerous orthopaedic centers throughout the country. In 1917, he wrote *Notes on Military Orthopaedics*, which at the time was indispensable to other surgeons throughout the United Kingdom who were not as proficient at fracture care.

Sir Robert Jones' accomplishments during the war facilitated his establishment of other societies, and in 1918 he founded the British Orthopaedic Association. His position as director of orthopaedics in the military meant that all orthopaedists trained at the time were taught by him. Following this period he was widely respected in the United States for his principles in fracture management and his mechanisms for dealing with a large volume of injuries, but he was actually less respected in Britain due to the opinions of the existing medical establishment.

END OF THE CAREER

At the end of his career, Sir Robert Jones published a paper entitled "Cure of the Crippled Children" with Robert Girdlestone from the University of Oxford. This paper was a critical analysis of the poor care of crippled children throughout England and proposed a scheme to deal with its shortcomings. This publication resulted in the founding of the Central Council for the Care of Cripples, an organization that built homes that housed crippled children. These facilities were equipped with operating rooms, gymnasiums, schoolrooms, play rooms and equipment shops. Sir Robert Jones died in 1933 at the age of 76. By 1935, England had 40 hospitals with a total of 6000 orthopaedic beds and 400 orthopaedic clinics.

SIR REGINALD WATSON-JONES

Sir Robert Jones served as an early mentor to Sir Reginald Watson-Jones, who was born in 1902 (Figure 5). Not of the same family, he was both a student of Robert Jones early in his career and his advocate fol-



Figure 5. Sir Reginald Watson-Jones.

lowing Sir Robert's death. Sir Reginald described himself as a "physician" designed to be a surgeon.³ He was considered to be one of the most outstanding orthopaedic surgeons in the mid-twentieth century and is responsible for bringing the treatment of fractures to the specialized position it holds today.

Watson-Jones became interested in medicine after suffering from typhoid, and he ultimately chose orthopaedics after having a hemangioma removed from his leg. Early in his medical career Robert Jones recognized Reginald's talent and, in 1926, persuaded the Royal Liverpool Infirmary to appoint Watson-Jones as honorary assistant surgeon in charge of a new orthopaedic department and fracture clinic. In the early 1930's he hyphenated his name with his mother's maiden name in order to distinguish himself from all the other Jones' in his home city of Liverpool.

In the early 1930's he published his first paper in the *Journal of Bone and Joint Surgery* and thereafter published at least three manuscripts a year. However, he became most famous for his instructional course lectures on fractures that were held in the early 1930's. These sessions were so successful and so well attended that he was asked to write his notes into a fracture text. *Fractures and Joint Injuries* was published just prior to World War II.

Most surgeons at the time found the text to be concise and "non-academic," which was refreshing and enabled them to better understand the concepts. The



Figure 6. Airmen with fractured cervical spines playing cricket.⁷

text served as a guiding hand for all military surgeons during World War II. Prior to this, there had never been a fracture text that dealt as comprehensively with fracture management. This remained a standard reference for decades in dealing with fractures and was translated into many languages. Still today it is a highly demanded book in areas of the world where operative treatment is not practical. Ultimately, this text was usurped by the AO manual in the late 1950's and early 60's.

Following the publication of his book, he became a consultant orthopaedist of the rural Air Force, but remained a civilian. He felt that as a civilian he would have more influence on the advancement of orthopaedic care. He established ten units of 100-150 beds for the Royal Air Force throughout the country. Each unit was staffed by 2-3 surgeons. In addition, he was one of the first surgeons to prescribe rehabilitation as an essential part of care in order to assist soldiers in returning to war. He believed that injured airmen could return to battle following vigorous rehabilitation. His model ensured many men were able to fly again and participate in the war effort (Figure 6).

In 1942, he was asked to establish the Department of Orthopaedics and Accidents at the London Hospital. It was agreed that all fractures and trauma to the musculoskeletal system would be referred to the Department. This broke a long-standing tradition within the London teaching hospital and opened the door for other institutions to establish orthopaedic departments of their own. In 1945 he was knighted for his work with the Royal Air Force.

Sir Watson-Jones was also well known for his immaculate record keeping which was not common at the time due to the poor penmanship of most physicians. He had a secretary who went with him from each of his consulting rooms who kept record of what was said



Figure 7. Sir Reginald Watson-Jones pictured with Adrian Flatt while visiting the University of Iowa.⁵

and organized his notes to facilitate follow-up. Furthermore, he was a technically demanding surgeon who insisted on a complete "no touch surgical technique." He kept pristine operative fields. His assistants "often could expect a brisk and painful rap across the knuckles if any blood got on the surgical drapes."³

Experiences of physicians in England during the war translated into a huge volume of information worth publishing. As a result, he believed that an expansion of the *Journal of Bone and Joint Surgery* was needed. This led to an independent publication, the *Journal of Bone and Joint Surgery (British)*, which maintained close ties with the original journal. The first issue of the British JBJS was published in February 1948. Watson-Jones traveled and lectured extensively, and included the University of Iowa as one of his stops (Figure 7). He remained as editor until his death in 1972.

The Sir Watson-Jones philosophy on fracture management can be summarized in one sentence, "The cause of nonunion of fractures is inadequate immobilization and nonunion of fractures is due to failure of surgeons much more than the failure of osteoblasts."³ He never agreed with Swiss philosophy that advocated primary internal fixation in order to avoid the "fracture disease" of prolonged immobilization.

Sir Robert Jones and Sir Reginald Watson-Jones laid the foundation for a strong history of British orthopaedics. They developed and expanded novel ideas for fracture management during the time of war. In addition, both published numerous papers that helped other physicians improve their knowledge and become more proficient in orthopaedic management. We are all indebted to Sir Reginald Watson-Jones and Sir Robert Jones for their vision and quest for excellence.

BIBLIOGRAPHY

1. The Newsletter of the British Orthopaedic Association, Issue #25, Spring 2002, p22-25.
2. The Newsletter of the British Orthopaedic Association, Issue #26, Autumn 2002, p 14-16.
3. WorldOrtho: History of Orthopaedics, p3-5. www.worldortho.com/pg3.html.
4. *Evolution of Orthopaedic Surgery*. Ed. Leslie Klennerman, London, England, Royal Society of Medicine Press, Champaign, Ill, Balogh International distributor, 2002. p 1-9.
5. **Buckwalter, J.A.** *Iowa Orthopaedic Journal*, Vol 14. 1994. p22-30.
6. **Peltier, Leonard F.** *Orthopedics: A History and Iconography*. Norman Publishing 1993 p152-158.
7. **Watson-Jones, Reginald.** *Fractures and Joint Injuries*. Vol I and II. 3rd edition. Baltimore, Williams and Wilkins Company, 1952.